AMENDMENT(S) TO THE CLAIMS

1   1. (Original) A method of classifying an image, the method comprising:

2   obtaining an image;

3   determining one or more classification thresholds;

4   determining the concentration ratio for the image;

5   comparing the concentration ratio to at least one of the one or more classification

6 thresholds; and

7   classifying the image based on the comparison of the concentration ratio to at least one of

8 the one or more classification thresholds.

1   2. (Original) A method as claimed in claim 1 wherein determining the concentration ratio for the

2 image includes determining the luminance components of pixels in the image.

1   3. (Original) A method as claimed in claim 1 wherein determining the concentration ratio for the

2 image includes determining the grayscale components of the image.

1   4. (Original) A method as claimed in claim 1 wherein determining the concentration ratio for the

2 image includes generating a histogram for the image.

1   5. (Original) A method as claimed in claim 1 wherein determining one or more classification

2 thresholds includes a training process.

1   6. (Currently amended) A method as claimed in claim [[1]] 5 wherein the training process

2 includes analyzing a set of images having known classifications.

1   7. (Currently amended) A method as claimed in claim [[1]] 6 wherein analyzing a set of images

2 having known classifications includes determining a concentration ratio for each image in the set

3 of images.

1   8. (Currently amended) A method as claimed in claim [[1]] 7 wherein determining the

2   concentration ratio for each image in the set of images includes generating a histogram for each

3   image.

1   9. (Currently amended) A method as claimed in claim [[1]] 5 wherein determining one or more

2   classification thresholds includes determining a threshold for text images and a threshold for

3   photographic images.

1   10. (Currently amended) A method as claimed in claim [[1]] 5 wherein classifying the image

2   based on the comparison of the concentration ratio to at least one of the one or more classification

3   thresholds is performed according to the following

4   If (CR < T) then image type = text

5   If (T $\leq$ CR < P) then image type = graphic

6   If (P $\leq$ CR) then image type = photographic

7   where CR is a concentration ratio of the image, T is a threshold for text images and P is a

8   threshold for photographic images.

1   11. (Original) A method as claimed in claim 1 wherein determining the concentration ratio for

2   the image includes determining the concentration ratio according to the following

3     $$CR = \left(\sum_L P_L \right)^n \Bigg/ \left(\sum_L P_L^n \right)$$

4   where CR is a concentration ratio, n is greater than 1, and P_L is a population at a level L.

1   12. (Currently amended) A method as claimed in claim [[1]] 11 wherein n is an even integer.

1   13. (Original) An image classifying processor, the processor configured to obtain an image,

2   obtain one or more classification thresholds, determine a concentration ratio for the image,

3   compare the concentration ratio to at least one of the one or more classification thresholds, and

4   classify the image based on the comparison of the concentration ratio to at least one of the one or

5   more classification thresholds.

1   14. (Currently amended) An image classifying processor as claimed in claim [[1]] 13 wherein the

2   processor is configured to determine the luminance components of pixels in the image.

1   15. (Currently amended) An image classifying processor as claimed in claim [[1]] 13 wherein the

2   processor is configured to determine the grayscale components of the image.

1   16. (Currently amended) An image classifying processor as claimed in claim [[1]] 13 wherein the

2   processor is configured to generate a histogram for the image.

1   17. (Currently amended) An image classifying processor as claimed in claim [[1]] 13 wherein the

2   processor includes a memory and the memory includes a threshold for text images, and a

3   threshold for photographic images.

1   18. (Currently amended) An image classifying processor as claimed in claim [[1]] 13 wherein the

2   processor is configured to classify the image based on the comparison of the concentration ratio to

3   at least one of the one or more classification thresholds according to the following

4   If (CR < T) then image type = text

5   If (T ≤ CR < P) then image type = graphic

6   If (P ≤ CR) then image type = photographic

7   where CR is a concentration ratio of the image, T is a threshold for text images, and P is a

8   threshold for photographic images.

1   19. (Currently amended) An image classifying processor as claimed in claim [[1]] 13 wherein the

2   processor is configured to determine the concentration ratio for the image according to the

3   following:

4 $$CR = \left(\sum_L P_L \right)^n \Bigg/ \left(\sum_L P_L^n \right)$$

5   where CR is a concentration ratio, n is greater than 1, and P_L is a population at a level L.

1   20. (Original) A method of processing an image, the method comprising:

2   capturing an image of an object;

3   classifying the image in a class using a concentration ratio;

4   using the class to modify the operation of an image capturing device; and

5   applying controlled, equalization to an image generated by the image capture device,

6   where the controlled, histogram equalization uses a concentration ratio.

1   21. (Currently amended) An image processing system comprising:

2   an image capture device;

3   an image classifier coupled to the image capture device in a feedback loop; and

4   a controlled, equalization processor coupled to the image capture device, that uses a

5   concentration ratio.

1   22. (Original) An image processing system comprising:

2   an image capture device configured to capture an image; and

3   an image classifier coupled to the image capture device in a feedback loop, the image

4   classifier configured to determine a concentration ratio for the image, compare the concentration

5   ratio to at least one or more classification thresholds, and classify the image based on the

6   comparison of the concentration ratio to at least one of the one or more classification thresholds.

1   23. (Original) A computer-readable medium containing instructions for processing an image by:

2   obtaining an image;

3   determining one or more classification thresholds;

4   determining the concentration ratio for the image;

5   comparing the concentration ratio to at least one of the one or more classification

6 thresholds; and

7   classifying the image based on the comparison of the concentration ratio to at least one of

8 the one or more classification thresholds.